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A New Species of the Genus *Nesticella* (Araneae: Nesticidae) from Taiwan

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Abstract — A new species of the spider family Nesticidae is described from Taiwan under the name, *Nesticella taiwan* sp. nov.

Key words — *Nesticella taiwan*, Nesticidae, new species, Taiwan

The family Nesticidae is a small but widely distributed ecribellate and its members resemble Theridiidae in both morphology and behavior. Morphologically, nesticid spiders resemble theridiids in exhibiting a row of serrated bristles on forth tarsus, but differ from them by a rebordered labium and a toothed fang furrow (Kaston 1978). Behaviorally, nesticid spiders also build space webs and hanging inverted in the web. However, while theridiids build their webs in a variety of habitats, nesticids can only be found in enclosed habitats such as caves (Hedin 1997).

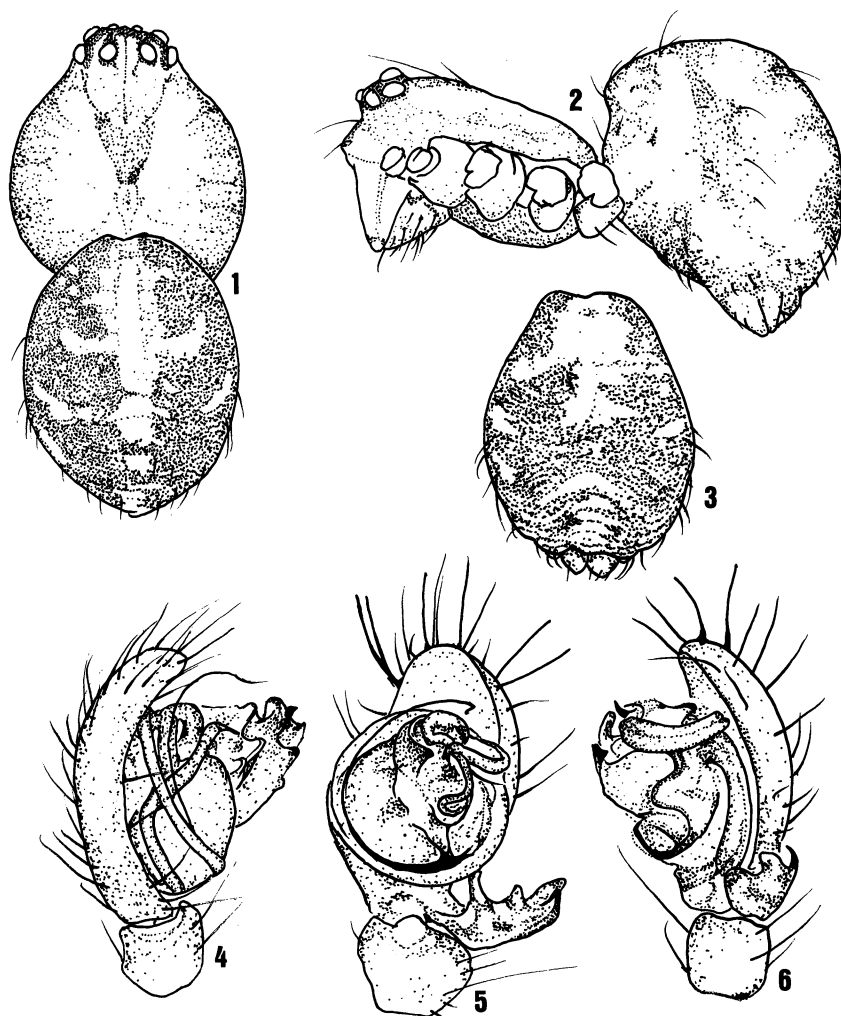
Although the family Nesticidae is widely distributed in Europe, Asia, Africa and America (Song et al. 1999) and is documented in eastern China and Japan (Yaginuma 1986), it has not been recorded from Taiwan. Recently, from a long term ecological research in which pitfall traps were used to investigate ground invertebrate fauna in Huisun Forest Area (24°04′N, 121°01′E), one species of this family was obtained. It is a member of the genus *Nesticella* and is recognized as a new species.

The genus *Nesticella* was established by Lehtinen and Saaristo in 1980. In that paper, the genus *Howaia* was also established, but it was synonymized with the genus *Nesticella* by Wunderlich in 1986. This genus is mainly distributed in the tropical areas of Asia to Africa. In East Asia, six species, *Nesticella quelpartensis* (Paik & Namkung 1969), *N. brevipes* (Yaginuma 1970), *N. mogera* (Yaginuma 1972), *N. okinawaensis* (Yaginuma 1979), *N. odonta* (Chen 1984) and *N. yui* Wunderlich & Song 1994, have been recorded (Platnick 1997; Song et al. 1999). The new species is the seventh one of this genus from this area.

The type specimens of the new species are deposited in the collection of the Department of Biology, Tunghai University, Taichung.

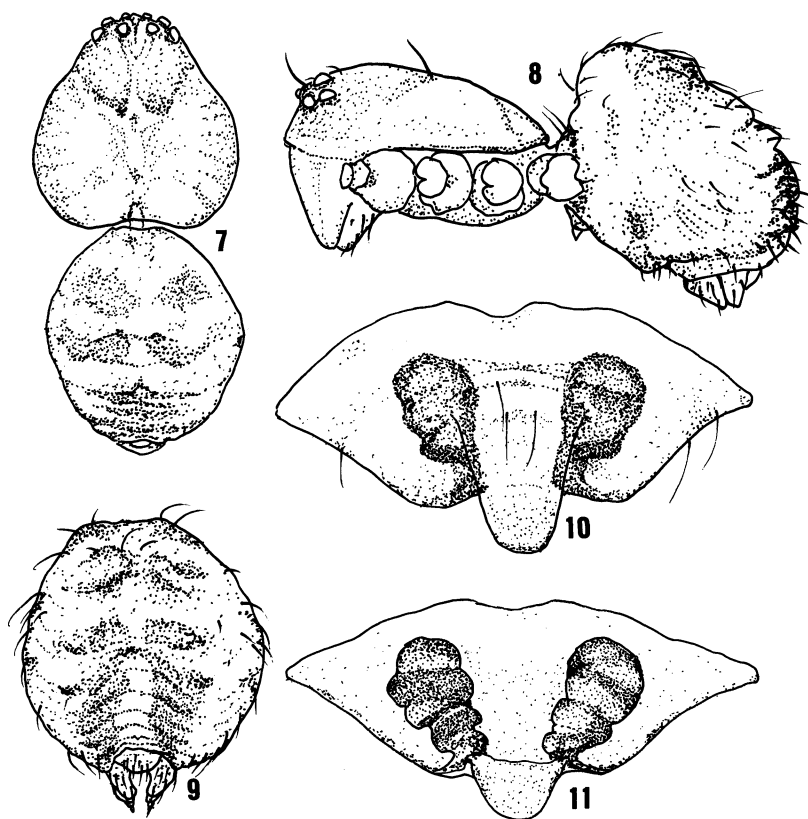
Abbreviations used in this paper are as follows: ALE, anterior lateral eye(s); AME, anterior median eye(s); MOA, median ocular area; PLE, posterior lateral eye(s); PME, posterior median eye(s).

Nesticella taiwan sp. nov.
(Figs. 1–11)

Male (holotype). Total length 2.16 mm. Carapace length 1.16 mm; width 1.00 mm. Abdomen length 1.11 mm; width 0.89 mm. First leg: femur 1.95 mm; patella and

Figs. 1–6. *Nesticella taiwan* sp. nov. (male holotype) —— 1, dorsal view; 2, lateral view; 3, abdomen, dorso-posterior view; 4, left palpus, prolateral view; 5, same, ventral view; 6, same, retrolateral view.

tibia 2.32 mm; metatarsus 1.79 mm; tarsus 0.74 mm. Second patella and tibia 1.53 mm; third patella and tibia 1.05 mm; fourth patella and tibia 1.74 mm.

Carapace circular, slightly longer than wide, with an oval median furrow. Diameters of AME smaller than the others (3: 8). AME twice their diameter apart and two-thirds from ALE. PME four-thirds their diameter apart and a half from PLE. MOA, anterior width: posterior width: length = 6: 9: 8 in the ratio. Clypeus slightly longer than the length of MOA (9: 8). Promargin of fang furrow with one tooth. Leg formula, 1, 4, 2, 3. Abdomen oval. Palpal organ as shown in Figs. 4–6: paracymbium with four large distal projections; embolus thin and long, originated from the basal part.

Carapace and abdomen grayish brown with blackish blotches as shown in Figs. 1

Figs. 7–11. *Nesticella taiwan* sp. nov. (female paratype) —— 7, dorsal view; 8, lateral view; 9, abdomen, dorso-posterior view; 10, epigynum, ventral view; 11, internal genitalia, dorsal view.

–3. Venter of the abdomen almost dusky. Chelicerae, maxillae and labium yellowish dusky brown. Sternum dusky brown. AME black. ALE, PME and PLE white. Femora of legs yellowish brown with wide median and distal dusky blotches; patellae, tibiae and metatarsi brown with distal dusky blotches; tarsi brown.

Female (paratype). Total length 2.26 mm. Carapace length 1.11 mm; width 1.05 mm. Abdomen length 1.16 mm; width 0.95 mm. Second leg: femur 1.53 mm; patella and tibia 1.68 mm; metatarsus 1.16 mm; tarsus 0.63 mm. Third patella and tibia 1.21 mm. First and fourth legs are missing.

Diameters of AME: ALE: PME: PLE=4: 8: 7: 7 in the ratio. AME three-fourths their diameter apart and a half from ALE. PME their diameter apart and two-sevenths from PLE. MOA, anterior width: posterior width: length=12: 21: 14 in the ratio. Clypeus slightly shorter than the length of MOA (6: 7). Genital organ as shown in Figs. 10–11: chitin scape projecting over the epigastric furrow.

Other characters as same as in the male.

Type series. Holotype: ♂, Huisun Forest Area (24°04′N, 121°01′E), 1250m alt., Nantow County, Taiwan, IV–1998, Hai-Yin Wu leg. (THU-Ar-990048). Paratypes: 1

♀, Huisun Forest Area, 1600m alt., IV-1998, Sheng-Hai Wu leg. (THU-Ar-990047); 1 ♂, 9-IV-1998, Sheng-Hai Wu leg. (THU-Ar-990049).

Distribution. Taiwan: Nantow County.

Remarks. The present new species resembles *Nesticella odonta* (Chen 1984) described from Zhejiang Province, China, but is distinguished from the latter by the paracymbium of male palpus without basal projection (Figs. 4-6) and the epigynum with chitin scape projecting over the epigastric furrow (Figs. 10-11).

Etymology. The specific name is a noun in apposition after Taiwan.

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Acta Arachnologica, Vol. 49, No. 1 掲載論文の和文要旨

カタハリウズグモの生活史および隠れ帯二型の出現頻度の季節変化 (pp. 1-12)

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京都大学理学部付属植物園内に生息するカタハリウズグモの生活史および，円網の隠れ帯二型（直線型・ウズ型）の出現頻度の季節変化を調査した．調査地内のカタハリウズグモは二化性で，夏世代と越冬世代をもっていた．産卵から幼体が出現するまでの時間は繁殖期間中に変化した．おそらく，卵発生における有効積算温度の効果によるものと推測された．卵嚢中の卵数は，保護している雌親の体重，および推定される産卵前の雌親の体重と高い正の相関関係を示した．隠れ帯二型の出現頻度は季節変化し，初夏には直線型が多く，秋に向けてウズ型の頻度が増大する傾向を示した．直線帯をつけた網の個体は，ウズ帯をつけた網の個体に較べ，体重が重く，腹部の膨らみ度合が大きかったことから，隠れ帯二型は，個体の栄養状態に対応していることが示唆された．初夏から秋に向けて餌となる飛翔昆虫量が減少することが，隠れ帯二型の出現頻度の季節変化に影響を与えていると推察した．

台湾産 *Nesticella* 属(クモ目：ホラヒメグモ科)の1新種 (pp. 13-16)

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台湾産ホラヒメグモ科 *Nesticella* Lehtinen & Saaristo1980 属の1新種を記載した．この属はアジアからアフリカの熱帯地方に多く分布する．東アジアからは，*Nesticella quelpartensis* (Paik & Namkung 1969)，*N. brevipes* (Yaginuma 1970)，*N. mogera* (Yaginuma 1972)，*N. okinawaensis* (Yaginuma 1979)，*N. odonta* (Chen 1984) および *N. yui* Wunderlich & Song 1994 の6種がこれまで記録されている (Platnick 1997; Song et al. 1999)．今回記載した種はこの地域からの7種目にあたる．

日本産 *Eriophora* 属のクモ類（クモ目：コガネグモ科） (pp. 17-28)

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分岐分析に基づいて，これまで *Zilla* 属に置かれていた日本産の3種のクモ類を *Eriophora* 属に移し，再記載し図示した．また，沖縄島産 *Eriophora* 属の1新種を記載した．本論文であつかったクモ類は，*Eriophora sagana* (Bösenberg & Strand 1906) comb. nov. サガオニグモ，*E. sachalinensis* (S. Saito 1934) comb. nov. カラフトオニグモ，*E. sachalinensis* (S. Saito 1934) comb. nov. キンカタハリオニグモおよび *E. yanbaruensis* sp. nov. ヤンバルオニグモ（新称）の4種である．*Aranea sagana* Bösenberg & Strand 1906 を *Aranea sagana* (Keyserling 1893) の新参ホモニムから復活させ，*Eriophora migra* Zhu & Song 1994 は *Eriophora sagana* (Bösenberg & Strand 1906) comb. nov. サガオニグモの，*Eriophora flava* Zhu & Song 1994 は *Eriophora sachalinensis* (S. Saito 1934) comb. nov. カラフトオニグモの新参シノニムとした．

沖縄島から採集された無眼の真洞穴性ヤチグモ属の1新種 (pp. 29-40)

下謝名松榮[1]・西平守孝[2]（[1]〒903-0129 沖縄県西原町子原1，琉球大学教育学部理科教育；[2]〒980-8587 仙台市青葉区荒巻字青葉，東北大学大学院理学研究科生物学専攻)

沖縄本島の石灰洞から見つかった小型の洞穴性ヤチグモを *Coelotes troglocaecus* n. sp.（オキナワホラアナヤチグモ）として記載した．ヤチグモでは国内初の無眼種である．同所的に生息する *Coelotes okinawensis* Shimojana 1989 オキナワヤチグモと比較しつつ形態記載をおこなっ